

## 1. Item Maps

**View All Items** **Close All Items** **Compare Student Groups**

**2011 Grade 8 NAEP Science**

**Content Classifications:**

- Earth & Space Sciences
- Physical Science
- Life Science

**300**

**290**

- 287 Predict and explain a weather pattern due to collision of air masses—Complete (CR)

**280**

**270**

- 269 Describe the evidence for chemical change—Complete (CR)
- 266 Identify chemically similar elements in the Periodic Table (MC)
- 264 Select and explain graph types and draw graphs from data that compare insect behaviors—Complete (CR)

**260**

- 256 Explain the formation of a rock based on its features—Complete (CR)

**250**

- 247 Form a conclusion based on data about the behavior of an organism—Complete (CR)

**240**

- 231 Select and explain graph types and draw graphs from data that compare insect behaviors—Essential (CR)

**230**

- 224 Explain a change in energy due to friction (MC)
- 221 Draw a conclusion about soil permeability using data—Complete (CR)

**220**

- 215 Advanced**
  - 214 Explain the effects of human land use on wildlife—Complete (CR)
  - 213 Predict a lunar phenomenon (MC)
  - 213 Predict and explain a weather pattern due to collision of air masses—Partial (CR)

**210**

- 208 Explain the formation of a rock based on its features—Essential (CR)
- 203 Select and explain the useful properties of a material used in an industrial process—Complete (CR)
- 201 Relate characteristics of air masses to global regions (MC)
- 200 Select and explain graph types and draw graphs from data that compare insect behaviors—Partial (CR)

NAEP national performance results in Science at grade 8: 2011

Select and explain graph types and draw graphs from data that compare insect behaviors

**Score**

Unsat./Incorrect	62%
Partial	22%
Essential	8%
Complete	6%
Omitted	1%
Off task #	

Percentage of Students

**5. National Data Results**

## 3. Insect Behavior Question Review

Search for Questions >> Science My Workspace >>

What can I do here? ?

Search Results (342 of 342) My Workspace (1)

My Work Create a Document

1. Select Content. (Choose one or more.)

- Questions
- Answers (keying guide)
- Student Responses
- Performance Summary Data

2. Select Format. (Choose one.)

- HTML
- Word

Year Grade Block # Type Difficulty Description

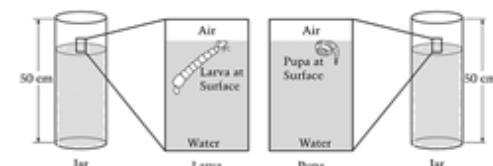
2011 8 811 11 ECR Hard Select and explain graph types and draw graphs from data that compare insect behavior.

Questions 10 - 13 refer to the following investigation.

Some students were studying the life cycle of mosquitoes. They learned that mosquito larvae and pupae spend part of their time at the surface of water.

The students wanted to find out how the larva and pupa behaved when the jars they were in were disturbed. They put one larva and one pupa in identical tall jars of water at 20°C as shown below:

JARS WITH LARVA AND PUPA



The students tapped on the jars when the larva and pupa were at the surface of the water. The larva and pupa dove down into the jars, and then slowly came to the surface.

The students measured the depth each larva and pupa reached and the amount of time each stayed underwater. The students repeated this step five times and calculated the average of each of their measurements. Their results are summarized in the table below.

Number of Trials	Larva		Pupa	
	Average Depth Reached (centimeters)	Average Length of Time Underwater (seconds)	Average Depth Reached (centimeters)	Average Length of Time Underwater (seconds)
5	22	90	38	120

11. You will use the data in the table to create two graphs to compare the behaviors of the larva and the pupa.  
11. You will use the data in the table to create two graphs to compare the behaviors of the larva and the pupa.

Which graph format would be best to use for both graphs?

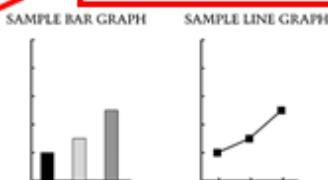
- Bar graph  
 Line graph

Explain why you think this graph format would be best for the information in this table.

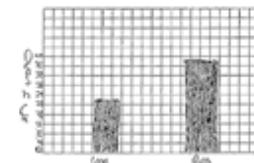
The bar graph would be better because you are measuring + comparing 2 different things.

- A. Bar graph  
B. Line graph

Explain why you think this graph format would be best for the information in this table.



Graph 1



## 4. Student Examples of Question #11

### 5. National Data Results